

## **ABSTRACT**

The present invention provides an intein-mediated method of attaching a ligand to a protein for immobilization onto a support functionalized with an affinity receptor. In one embodiment, the ligand is biotin and the affinity receptor is avidin. Biotin is attached to the protein by reacting cysteine-biotin with a fusion protein comprising a cleavable intein and a protein of interest to effect cleavage of the cysteine and attachment of biotin to the protein. The present invention further provides a novel protein array and a high throughput method of preparing protein arrays by expressing the protein of interest as an intein fusion protein including a binding domain for purification, attaching a ligand to the fusion protein under condition suitable for cleavage of the intein and attachment of the ligand to the remaining protein and immobilizing the resulting protein-ligand onto a support that has been functionalized with an affinity receptor.